



## Stanley Engineering Company

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### Facility Machine List

#### Horizontal CNC Machining Centers

1 each 2018 Makino A51NX Horizontal Machining Center with Pro6/Fanuc Control  
Capacity 22.05" x 25.20" x 25.20" with Dual 400mm Pallets  
Each equipped with 133 tools, 14,000 rpm high torque spindle, Coolant thru the spindle,  
Simultaneous 4- axis machining capability  
Super G1.5 control, Super geometric intelligence  
Accuracy less than .002mm positioning and .001mm repeatability

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1 each 2011 Makino A51NX Horizontal Machining Center with Pro5/Fanuc Control  
Capacity 22.05" x 25.20" x 25.20" with Dual 400mm Pallets  
Each equipped with 60 tools, 20,000 rpm spindle, Coolant thru the spindle, Simultaneous 4- axis  
machining capability  
Super G1.4 high speed, high accuracy control  
Accuracy less than .002mm positioning and .001mm repeatability

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2 each 2004 Simultaneous true 5- axis high speed machining capability Makino A55E with  
Pro3/Fanuc 16i Control  
Capacity 22" x 23" x 20" with Dual 400mm Pallets  
Equipped with 60 tools, 14,000 rpm spindle, Coolant thru the spindle  
Accuracy less than .004mm positioning and repeatability

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1 each 2004 Kitamura Mycenter HX400iF with Fanuc 16i-M Control  
Capacity 28.9" x 24" x 24" with Dual 400mm Pallets  
Equipped with 50 tools, 13,000 rpm geared spindle, Coolant thru the spindle,  
Simultaneous 4- axis high speed machining capability  
Accuracy +/- 0.0001" positioning and repeatability

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1 each 2003 Matsuura ES450H with Fanuc 18i-M Control  
Capacity 17.5" x 15.7" x 15.7" with Dual 300mm Pallets  
Equipped with 30 tools, 10,000 rpm spindle, Coolant thru the spindle,  
Fourth axis 1 degree rotary positioning capability  
Accuracy less than .005mm positioning and repeatability

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#### **Makino MMC2** expandable production cell

Equipped with 39 500mm pallets rail guide high speed delivery vehicle  
Central cell controller

2each 2007 A61 Makino Horizontal Machining Centers with Pro5/Fanuc Control

1each 2009 A61 Makino Horizontal Machining Centers with Pro5/Fanuc Control

1each 2011 A61NX Makino Horizontal Machining Center with Pro5/Fanuc Control

A61 Capacity 28.74" x 25.59" x 28.74"

A61NX Capacity 28.74" x 28.74" x 31.50"

Each equipped with 219 tools, 20,000 rpm spindle, Coolant thru the spindle, Simultaneous 4- axis high speed machining capability  
Accuracy less than .002mm positioning and repeatability

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### **Vertical CNC Machining Centers**

1 each 2011 Makino PS95 with Professional P Control  
Capacity 36.2" x 20" x 18.1"  
Equipped with 30 tools, 14,000 rpm 33.5hp Spindle, high speed machining  
Accuracy up to +/- 0.0001" positioning accuracy and +/- 0.000078" repeatability

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2 each 2013 Makino PS95 with Professional P Control  
Capacity 36.2" x 20" x 18.1"  
Equipped with 30 tools, 14,000 rpm 33.5hp Spindle, high speed machining  
Accuracy up to +/- 0.0001" positioning accuracy and +/- 0.000078" repeatability

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2 each 2016 Makino PS95 with Professional P Control  
Capacity 36.2" x 20" x 18.1"  
Equipped with 30 tools, 14,000 rpm 33.5hp Spindle, high speed machining  
Accuracy up to +/- 0.0001" positioning accuracy and +/- 0.000078" repeatability

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1 each 2008 Haas VF-6/40  
Capacity 64" x 32" x 30"  
Single work station with 5 axis trunnion  
Full 5 Axis machining capabilities. Equipped with 40 tools, 15,000 rpm spindle, and high speed machining  
Accuracy positioning ( $\pm$ ) 0.008 mm repeatability ( $\pm$ ) 0.005 mm

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1 each 2004 Haas VF-2SS  
Capacity 30" x 16" x 20"  
Single work station  
Equipped with 24 tools, 12,000 rpm spindle, and high speed machining  
Accuracy positioning ( $\pm$ ) 0.008 mm repeatability ( $\pm$ ) 0.005 mm

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4 each 2004 Fanuc Robodrill T21iD with Fanuc 16i-MB Control  
Capacity 20" x 15" x 13"  
Equipped with 21 tools, 20,000 rpm Spindle, high speed machining and dual station  
Automatic pallet changer  
Accuracy less than .004mm positioning and repeatability

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2 each 2006 Fanuc Robodrill T21iEL with Fanuc 31i-Model A5 Control  
Capacity 20" x 15" x 13"  
Equipped with 21 tools, 24,000 rpm Spindle, high speed machining and dual station  
Automatic pallet changer  
Accuracy less than .004mm positioning and repeatability

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3 each 2009 Fanuc Robodrill T21iFL with Fanuc 31i-Model A5 Control  
Capacity 20" x 15" x 13"  
Equipped with 21 tools, 24,000 rpm Spindle, high speed machining and dual station  
Automatic pallet changer  
Accuracy less than .004mm positioning and repeatability

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2 each 2017 Fanuc Robodrill D21LiB5 with Fanuc 31i-Model B5 Control  
Capacity 20" x 15" x 13"  
Equipped with 21 tools, 24,000 rpm Spindle, high speed machining, Nano processing  
Fanuc DDR260iB 4th axis rotary  
Accuracy less than .004mm positioning and repeatability

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1 each 2003 Matsuura RA-1 with Yasnac MX3 control  
Capacity 20" x 15" x 18"  
Equipped with 20 tools, 10,000 rpm Spindle and dual station automatic pallet changer  
Accuracy less than .005mm positioning and repeatability

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### **CNC Turning Centers**

1 each 2011 Daewoo Puma 2600SY 5Axis Turning Center with Fanuc M20iA Robot  
Fanuc 31i-A Control  
Equipped with 24 Station turret, all stations have mill-drill capability  
4" stroke in Y- axis  
Main spindle 14.8" chucking capacity, 29.5 hp motor, 4,000 rpm  
.001 degree minimum programmable angle in C-axis  
Sub-spindle 6" chucking capacity, 20 hp motor, 5,000 rpm  
Accuracy positioning:  $\pm 0.00008"$ ,  $\pm 0.001^\circ$  Repeatability:  $\pm 0.00006"$ ,  $\pm 0.0005^\circ$   
Robot repeatability 0.10mm, 20kg payload, 6 axis, 1811mm reach

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1 each 2006 Daewoo Puma 2000SY 5Axis Turning Center with Fanuc 18iTB Control  
Equipped with 12 Station turret, all stations have mill-drill capability  
4" stroke in Y- axis  
Main spindle 8" chucking capacity, 20 hp motor, 45–5,000 rpm  
.001 degree minimum programmable angle in C-axis  
Sub-spindle 6" chucking capacity, 10 hp motor, 60-6,000 rpm  
LNS magazine bar loader 1/4"to3-1/8"  
Accuracy positioning:  $\pm 0.00008"$ ,  $\pm 0.001^\circ$  Repeatability:  $\pm 0.00006"$ ,  $\pm 0.0005^\circ$

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1 each 2008 Daewoo Puma 2000SY 5Axis Turning Center with Fanuc 18iTB Control  
Equipped with 12 Station turret, all stations have mill-drill capability  
4" stroke in Y- axis  
Main spindle 8" chucking capacity, 20 hp motor, 45–5,000 rpm  
.001 degree minimum programmable angle in C-axis  
Sub-spindle 6" chucking capacity, 10 hp motor, 60-6,000 rpm

Accuracy positioning:  $\pm 0.00008''$ ,  $\pm 0.001^\circ$  Repeatability:  $\pm 0.00006''$ ,  $\pm 0.0005^\circ$

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1 each 2008 Daewoo Lynx 220 LM Turning Center with Fanuc i Series Control  
Equipped with 12 Station turret, all stations have mill-drill capability  
Main spindle 6" chucking capacity, 20 hp motor, 6,000 rpm  
.001 degree minimum programmable angle in C-axis  
With programmable tailstock  
LNS magazine bar loader 1/4" to 2"  
Accuracy positioning:  $\pm 0.00008''$ ,  $\pm 0.001^\circ$  Repeatability:  $\pm 0.00006''$ ,  $\pm 0.0005^\circ$

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### **CNC Wire EDM Center**

1 each 2004 Fanuc Robocut 1i-C with Fanuc 180is-WB control  
Capacity 41" x 28.7" x 16.1"  
Equipped with auto threading, adaptive cutting control, accurate up to .00004  
4 axis cutting capability

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### **Quality Assurance Equipment**

1 each Brown & Sharpe Global Performance 9158 CMM  
Capacity 900 x 1500 x 800  
Equipped with Tesastar probe with high speed scanning Leitz sensors  
Accuracy: MPE<sub>s</sub> = from 1.5 + L/333  $\mu\text{m}$   
Software PC-DMIS 2017 CMM

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1 each Brown & Sharpe Optiv Classic 4.5.3  
Optical measuring CMM  
Capacity 400 x 500 x 300 mm  
Equipped with high- resolution camera, 12:1 CNC controlled zoom, laser pointer, LED top lighting, backlighting, and ringlight  
Software PC-DMIS 2017 CMM Vision

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1 each Brown & Sharpe DCC-CMM Model One  
Capacity 25" x 39" x 23"  
Equipped with fully programmable Renishaw PH10 articulating probe head with quick change stylus  
Software PC-DMIS 2017 CMM

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1 each Brown & Sharpe DCC-CMM Model Micro Xcel  
Capacity 29" x 41" x 18"  
Equipped with fully programmable Renishaw PH10 articulating probe head with quick change stylus  
Software PC-DMIS 2017 CMM

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1 each Brown & Sharpe DCC-CMM Model Micro Val PFx  
Capacity 18" x 20" x 12"

Equipped with fully programmable Renishaw PH10 articulating probe head with quick change stylus  
Software PC-DMIS 2017 CMM

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### **Production Sawing**

1 each Spartan PA 13/3 Horizontal Saw  
Capacity Rectangular 8" x 12"  
Capacity Round 10"  
Equipped with automatic bar feed, and multi-bar stacker

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1 each Wilton 20" Vertical Saw  
Height Capacity 12"  
Throat Capacity 20"  
Table Size 24" x 22.5"  
Table Tilt (deg) 8 fwd/back, 12 left, 15 right

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### **Tooling Department**

1 each Zoller Power Shrink  
Equipped with inductive coil for HSS and carbide tooling.  
High performance cooling unit.  
Tool cooling adapters.

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1 each Zoller Venturion Saturn 1 Tool Presetter  
400mm measuring length and 320mm measuring diameter.  
2um Repeatability, 1um resolution, Adjusting Accuracy < 2um.  
Equipped with High Precision Spindle, Saturn 1 Vision Operating System

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### **Computer Software / Programming**

Epicor ERP software with company wide network implementation featuring software for Accounting, Order Entry, Job Costing, Bar Coded Labor Reporting, Shop Routers, Purchasing, as well as Finite and Infinite shop loading/scheduling capabilities.  
MasterCAM 2017 Programming System.  
SurfCam 3D Design, Modeling and Machining Software System.  
AUTOCAD LT2000i Design, Drafting and Detailing CAD Software.  
DNC Shop Link Communication to all CNC Machine Tools  
Unigraphics Nx9 Software.  
PTC Creo 4 Software.